What is claimed is:

1. A method for automatically correcting distortion of a front-projected display under observation by a camera, the method comprising the steps of:

observing a first image, projected from at least one projector, comprising at least one target distribution of light intensities;

for each conglomeration of white pixels of a difference image, compute a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of the camera, compute a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of said projector, compute an initial homography matrix, $\mathbf{H}_{temp}$, mapping pixels of said projector's bounding box to those of the camera's bounding box, optimize said initial homography matrix, compute a central location, $(\mathbf{c}_x, \mathbf{c}_y)$, of the camera's bounding box using said initial homography matrix; and

using a plurality of correspondence values comprising said correspondence, compute a corrective transform to aid in the automatic correcting of the display.

2. The method of Claim 1 further comprising the steps of:

using said corrective transform and a set of intrinsic parameters of the camera and said projector, compute a corrective warp;

using said corrective warp, compute an updated projector framebuffer information; and

calculating matchpoints for use by an application program code.

3. The method of Claim 2 further comprising the steps of:

observing an updated image resulting from projecting said updated projector framebuffer information;

using a second homography, C, construct a predicted image of said updated image; and

in the event said updated predicted image is not substantially similar to said updated image, compute a new corrective transform.

4. The method of Claim 3 wherein said step of computing a new corrective transform comprises:

observing a current image;

for each conglomeration of white pixels of a current difference image, compute a current bounding box comprising a corresponding conglomeration of pixels in a current framebuffer information of the camera, compute a current bounding box comprising a corresponding conglomeration of pixels in a current framebuffer information of said projector, compute a current homography matrix mapping pixels of said projector's current bounding box to those of the camera's current bounding box, optimize said current homography matrix, compute a current central location, ($c_{x'}$, $c_{y'}$), of the camera's current bounding box using said current homography matrix; and

using a plurality of current correspondence values comprising said current correspondence, compute said new corrective transform.

5. The method of Claim 4 further comprising the steps of:

using said new corrective transform and said set of intrinsic parameters of the camera and said projector, compute a current corrective warp; and

using said current corrective warp, compute a current updated projector framebuffer information.

6. The method of Claim 1 wherein:

said step to optimize said initial homography matrix comprises evaluating a normalized similarity score on pixels within the camera's bounding box; and

said step of computing a corrective transform comprises applying a least squares fit technique.

7. The method of Claim 1 further comprising the step of monitoring the front-projected display comprising:

periodically observing a current image; and

compute a current corrective transform.

8. A system for automatically correcting distortion of a front-projected display region under observation by a camera, the system comprising:

the display comprising a projected image from at least one projector, said projected image comprising a first image having at least one target distribution of

light intensities, and thereafter, an updated image resulting from projecting a correctively-warped projector framebuffer information; and

at least one processor adapted for, for each conglomeration of white pixels of a difference image, (a) computing a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of the camera, (b) computing a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of said projector, (c) computing an initial homography matrix, $\mathbf{H}_{temp}$, mapping pixels of said projector's bounding box to those of the camera's bounding box, (d) optimizing said initial homography matrix, (e) computing a central location, $(\mathbf{c}_x, \mathbf{c}_y)$, of the camera's bounding box using said initial homography matrix, and (e) using a plurality of correspondence values comprising said correspondence, computing a corrective transform and, therefrom, computing a corrective warp for the automatic correcting of the display.

9. The system of Claim 8 wherein said at least one processor is further adapted for monitoring the front-projected display.

10. A computer executable program code on a computer readable storage medium for automatically correcting distortion of a front-projected display under observation by a camera, the program code comprising:

a first program sub-code for observing a first image, projected from at least one projector, comprising at least one target distribution of light intensities;

a second program sub-code for: for each conglomeration of white pixels of a difference image, computing a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of the camera, computing a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of said projector, computing an initial homography matrix, $\mathbf{H}_{temp}$, mapping pixels of said projector's bounding box to those of the camera's bounding box, optimizing said initial homography matrix, computing a central location, $(\mathbf{c}_x, \mathbf{c}_y)$, of the camera's bounding box using said initial homography matrix; and

a third program sub-code for, using a plurality of correspondence values comprising said correspondence, computing a corrective transform to aid in the automatic correcting of the display.

11. The program code of Claim 10 further comprising a fourth program sub-code for: using said corrective transform and a set of intrinsic parameters of the camera and said projector, computing a corrective warp; and, using said corrective warp, computing an updated projector framebuffer information.

12. The program code of Claim 11 further comprising a fifth program sub-code for:

observing an updated image resulting from projecting said updated projector framebuffer information;

using a second homography, C, constructing a predicted image of said updated image; and

in the event said updated predicted image is not substantially similar to said updated image, computing a new corrective transform.

13. The program code of Claim 12 further comprising a sixth program sub-code for computing said new corrective transform, said sixth program sub-code comprising instructions for:

observing a current image;

for each conglomeration of white pixels of a current difference image, compute a current bounding box comprising a corresponding conglomeration of pixels in a current framebuffer information of the camera, compute a current bounding box comprising a corresponding conglomeration of pixels in a current framebuffer information of said projector, compute a current homography matrix mapping pixels of said projector's current bounding box to those of the camera's current bounding box, optimize said current homography matrix, compute a current central location, $(c_{x'}, c_{y'})$, of the camera's current bounding box using said current homography matrix; and

using a plurality of current correspondence values comprising said current correspondence, compute said new corrective transform.

14. The program code of Claim 10 further comprising a fourth program sub-code for monitoring the front-projected display.